Name	Topic	Statement of Concern
Curtis Fatig	Changes in Agreements and Interfaces	For long-term missions, it appears from the speakers that missions should plan on a change around every 5 years in the interfaces.
Curtis Fatug	DSN and Mission Changes	It was stated that either DSN or Mission can suggest changes and assess impacts of those changes.
Curtis Fatig	New Processes	DSN, with the missions, was discussed as better communication, being nimble, etc. The scheduling process seems to be the only one addressed at any level of detail.
Dwight Holmes	Suggest for Expanded Decadal Survey	With regard to Bob Cesarone's comment on charging projects for new, required DSN capability. Need a DSN linkage to the Decadal survey to that funded projects can feel free to request capability they need for maximum science. NASA directly funds DSN for the new capability requirements out of the future mission set plan that results from the survey.
Chad Edwards	Spectrum Comflicts	Regarding Spectrum conflicts resulting from mission extensions.
Susan Finley	Fallout from Severely Cut DSN Funds	Our group will be implementing two "non-standard service" upgrades for 3 projects (dual polarization combining for NHPC and non-beacon tone detection for Juno and MSL). These projects are funding the partial upgrades because the DSN cannot afford to fund any of the changes. Will it be the future policy of NASA to charge the projects for any non-standard changes?
Jeff Berner	Early partnership between DSN and Missions	Can DSN and missions work together early enough to affect designs so that capabilities are used optimally? For example, NEAR using long frame lengths of 10,000 bits with low data rates of 10 bps for safe mode, results in significant delays
Jeff Berner	Prioritization in 2011-2012	Can a prioritization be established between the 2011-12 missions for critical events?
Bobby Williams	Sustaining the Radio Metric Capability	I see that the SCAN plan for future tracking asset upgrades includes Ka band upgrades, optical communication, and orbiting assets. All this is fine for improving bandwidth for communication links, but I am concerned that the radio metric tracking capability that enables deep space missions may be undermined or overlooked during the upgrades.
Bobby Williams	Future Navigation Team Feedback for Radio Metrics	The project and multi-mission navigation teams have consistently provided verification and validation of the DSN infrastructure for radio metric tracking. This happens both during routine operations and any time there are changes or upgrades. Many times the navigation teams are the first to detect a problem with the radio metrics, and they provide both the problem description and the analysis that aids the DSN in resolution of the problem. Examples include the Mark V receiver digital register problem (cf. 1997), SRA tests and validation, pass by pass configuration issues, site survey and station location issues, etc. In order for the navigation teams to have visibility into the station configuration during a track, both metadata and personal contact with knowledgeable engineers inside the DSN is essential. For some tracking issues, the navigation teams perform tests and experiments to narrow the possible sources of error. During the late 1990's some Mars mission navigation teams were specifying specific receivers at some stations due to observed anomalies. I am concerned that an automated, on-line system for scheduling and tracking reports – if taken to an extreme – may remove the personal interaction and transfer of critical information that navigation teams use for verification and validation of the DSN radio metric tracking data.
Rich Benson	Nimble DSN	The point was made that the DSN needs to be nimble to respond the events, complexity, and tightly packed DSN schedule around 2011. A theme for increasing DSN responsiveness seems to be closer DSN coordination with mission scenarios, gathering more details about mission events, and planning of DSN responses in case of contingencies - good ideas. But understanding complexity is only half way. Resolving schedule perturbations needs improvement such as using priorities and limits during critical periods. Keeping the schedule remedy scenario as simple as possible will better lead to robustness and nimble response.
George Martinez	70-Meter Replacement	In the world of VLBI, the 70-meter offers some unique capabilities. Using the 70-meters, the global VLBI community has used L-band and 22 GHz K-Band. Will these features be kept after the 70-meters are retired?
Ed Hirst	Mission Priorities Schemes and Decision Authorities	Implementation of any sort of priority scheme for allocating DSN resources could be overbearing and ill-informed thus able to impose improper decisions. As an example, during the Stardust Wild-2 encounter and New Horizon's launch, the projects resolved a DSN conflict that was acceptable to both missions, but was challenged (and possibly reversed) by upper management / HQ once the decision was communicated.

Recommended Action
Missions should forecast resources for these changes in their long range plans.
The process of determining which changes should be considered, the funding of the changes, and who approves needs to be address to get "buy-in" from all the users.
Other processes need to be addressed too
NASA to make a decision on how to fund DSN, linked to Decadal Survey and subsequent NASA mission set commitments. In other words, infrastructure should be included in the discussions about the mission set that results from the Decadal Survey.
Spacecraft should have re-programmable telecom payloads with frequency agility to alleviate this problem.
Fund the DSN commensurate with continuing its unique invaluableness
The use of radio metric tracking for navigation in deep space depends on infrastructure that is complex and poorly understood by many managers and projects. The determination and maintenance of DSN platform and calibration parameters is one example of infrastructure that is often overlooked when considering upgrades to antennas and electronics at the stations. The current spacecraft tracking system is a finely tuned (albeit aging) system that works extremely well in a variety of innovative modes like F1, F2, F3, SRA ranging, VLBI, DDOR, etc. Please include navigation domain experts in planning of system upgrades, especially those that involve replacing and/or retiring current radio metric capability.
Navigation teams have traditionally been both customers of the DSN and part of the engineering effort for verification and validation of the on-going capability for deep space radio metric tracking. Please be sure to provide necessary two-way information flow between navigation team customers and internal DSN engineering and operations personnel. Also have navigation domain experts review how the proposed on-line scheduling system will affect future interactions.
Two factors are needed for nimble response – 1) effective control of the groundside of the telecomm link and 2) station time to exercise those controls. The DSN already does a fair job of controlling the link at an atomic level. We generally can quickly invoke, or revise, plug-in controls to 1) load the tables, 2) get on point, 3) run the track, and 4) deliver the products. The missing part is ease of getting a new station when conditions change. The schedule around critical events is a house of cards - where each door is also a wall. Opening the door to remedial support leads to chaos as other support collapses. Nimbleness is enabled by schedule slack around critical events. Ways to get slack: Simply leaving free time. (Seems wasteful to users left out.); Relying on the power of the scheduling engine to rearrange the house of cards in real-time. (Attractive, but needs to be proven.); Pre-determined priorities are most practical, in my view. A pecking order is established and executed if needed. Displaced users accept loss without delay. (Perhaps naïve in assuming consensus and/or strong leadership.
Implementation of any sort of priority scheme for allocating DSN resources must both (1) Allow missions to arrive at mutually agreeable solutions before invoking the priority process - project management must be allowed to manage, and (2) Have knowledgeable people assigned to the body charged with adjudicating unresolved conflicts